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ABSTRACT

To compare hearing and hearing impaired subjects on the certainty of their attributions in relation to unitization and role behavior, 48 hearing impaired and 48 non hearing impaired college students were randomly assigned to one of four conditions: unitization level (fine or gross) and role (in-role or out-of-role). All subjects were given instructions on the process of unitization, with half the subjects being instructed in how to divide a behavioral sequence into fine units and the other half being given gross unit instructions. In addition, half of the subjects were told that they would be reading about a person waiting for a job interview, while the other subjects were told that the paragraph they would read involved an Olympic hopeful waiting to talk to a coach. Ss were then asked to read a paragraph, divide it into units (either gross or fine), and rate the individual on such characteristics as sociability, good naturedness, humor, athletic ability, warmth, and popularity. Based on the introduction received--to a job interviewee or an athlete waiting to see a coach--the behavior contained in the paragraph was either in-role or out-of-role. Results revealed that hearing impaired Ss showed differences in the certainty of their attributions under fine unit versus gross unit conditions: they were more sure of their attributions when forced to use fine units. Hearing Ss, however, were more certain about their attributions under different role conditions. Results from the hearing impaired population supported the hypothesis that out-of-role behavior may cue Ss to employ finer units of perception, while results from the hearing Ss supported the hypothesis that highly certain attributions are the result of behavior which deviates from norms. (CL)

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The Effects of Unitization and Role Behavior on Hearing and Hearing Impaired Observers' Certainty of Their Attributions.

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Much of the current research in attribution has emphasized the observer's role. Virtually none of this literature has studied the deaf or hearing impaired observer and his/her attributional process. This paper will attempt to rectify this situation. The emphasis will be on observers, both hearing and hearing impaired, as organizers of perceived behavior into meaningful units and how this influences the certainty of their attributions. Until Newton (1973), the observer was not seen as playing much of a role in this organizing of observed behavior. Newton claimed that some observers may divide a sequence into many fine units, while others may see this sequence as composed of only a few large units. Some research (Newton, 1973; Anthony, 1976; Anthony, 1977) on this unitization does indicate that fine unit observers are more certain about their impressions of behavior than large unit observers. In this view, certainty is dependent upon fine units of perception.

In contrast, Jones and Davis (1961, 1965), in their theory of correspondent inferences, claim that highly certain attributions are the result of behavior which deviates from norms. They reported more extreme and more confident impressions by subjects observing out-of-role actors. This out-of-role behavior was interpreted as more informative to subjects. Newton reinterpreted these findings to mean that out-of-role behavior, because of its unexpectedness, may have cued subjects to employ finer units of perception. The present study will contrast these opposing predictions.

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However, the primary concern of this research is to compare hearing and hearing impaired subjects (Population) on the certainty of their attributions in relation to these two variables: unitization and role behavior. Because of the nature of hearing impairment, such an individual seems forced to focus on behavior, behavioral sequences, gestures and nonverbal cues to a much greater degree than an average hearing person. As a starting point, this present research will predict that hearing impaired subjects will be more influenced by unitization in their certainty judgments than hearing subjects.

In addition, from Jones and Davis, the prediction is that there will be a main effect for Role Behavior on certainty of attributions. Subjects will be more confident of their attributions for "Out-of-Role" behavior. From Newton, the prediction is a main effect for unitization. Fine unit observers will be more certain of their attributions.

Since a complex variety of certainty judgments involving many attributions was employed, a MANOVA approach was used (Memphis State Computer Services, 1978; Taosuoka, 1971). The design of this research is a $2 \times 2 \times 2$ MANOVA (Unitization x Role x Population) with 15 dependent certainty measures.

Subjects

There were 98 subjects in the total sample. Two subjects failed to finish the experiment and consequently their data was not analyzed. Forty eight of the subjects were Callaudet College juniors and seniors. All of these subjects had some degree of hearing impairment. The other forty eight subjects attended state colleges. All were volunteers for the experiment and received either extra credit in their psychology courses or \$2.00 for participation.

Procedure

Each subject was randomly assigned to one of the four conditions: Unitization Level (Fine or Gross) and Role (In-Role or Out-of-Role). All subjects were given instructions on the process of unitication. For half of the subjects, the first page of the experimental materials contained information on how to divide a behavioral sequence into fine units. For the other half of the subjects, the instructions explained how to use gross or large units. A sample of the instructions for fine units follows:

In the following pages you will read about a young man who is 22 years old. As you read about him please try and divide his behavior in the smallest meaningful units that you can. Here is an example of how to divide behavior into very small units. The slash lines (//) indicate the end of one behavior.

The cat watched the mouse.// While he watched, he wrinkled his nose// and flicked his tail.// He crawled slowly across the floor// and followed the mouse.//

In this example the person found 7 small units of behavior. The opposite of this is to think of the behavior in large units. If the example above were divided into large units, we could simply say, "The cat caught the mouse."

In the study that follows be sure to divide the behavior into the smallest possible units. Indicate the way you divide it by slashes (//). As in the example, there are no right or wrong ways of dividing behavior into units but keep in mind that we are interested in what you think are the smallest meaningful units.

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Research assistants went through the instructions a second time with each subject. After this manipulation for Factor A (Unitization) subjects received the manipulation for Factor B (In-Role/Out-of-Role). Again, half of the subjects received a written introduction to stimulus person "John" as a senior in college, majoring in Russian Literature. At the end of the introduction, John was presented as waiting alone in the office of a principal for a job interview. The other half of the subjects read about "John" as a college senior track star. At the end of this introduction, John was presented as waiting in the office of a famous olympic coach for a try-out for the Olympic Team. Then, all subjects read the same paragraph about stimulus person "John". The behavioral sequence contained in this paragraph was modeled after the one employed by Newtonson (1973) in his unitization research. While the behaviors may seem trivial, it was important for elementary research on this phenomena to keep matters simple. Part of the paragraph follows:

"John enters the office where he has been told to wait. (He is alone.) He takes off his coat and lays it neatly across a chair. Then, he walks over to a small desk and table. He sits down. Then he begins to answer the questionnaire given to him by the secretary. After a few minutes he stops work on the questionnaire, gets up, goes to his coat and takes a stick of gum. He throws the wrapper in the garbage. He missed the wastebasket so he walks over to it and picks up the gum wrapper."

Subjects read the paragraph and divided it into fine units or gross units according to the directions received. Slash (//) marks were used to

indicate the beginning and end of a behavioral sequence. For subjects who believed John to be a prospective teacher the behavioral sequence in the office was Out-of-Role. While for subjects who believed John to be an Olympic hopeful, the behavioral sequence was In-Role. Thus, Factor B was manipulated. Then all subjects filled out a check list on their feelings and ratings of John. These measures constituted the dependent variables. Subjects rated John on such characteristics as sociability, good naturedness, humor, intelligence, persistence, scientific attitudes, honesty, tolerance, imagination, happiness, athletic ability, warmth, friendliness, popularity, and industriousness on 8-point scales. After each of these fifteen characteristics, subjects rated how certain they were about their judgement of that particular characteristic on an 8 point scale. Therefore, there was a total of thirty 8 point rating scales. However, since this research is concerned with certainty ratings and not with first impressions the ratings of "John's" characteristics were not analyzed. Only certainty data was used.

Results

The first analysis involved a manipulation check of whether subjects in the various conditions followed the directions about unitization. Subjects given the fine unit instructions should be significantly different from subjects given gross unit instructions. However, the unitization instructions should not interact with the Population Factor or with the Role Factor. Thus, we are predicting a Main Effect for Unitization (Factor A). A $2 \times 2 \times 2$ ANOV on the number of units employed by subjects in the 8 cells of the design did yield a Main Effect for A (Unitization). The $F = 909.73$, $df 1/92$, $p < .0001$. No other Main Effects or any interactions were significant. As was hoped, fine unit subjects showed a high mean of 61.50 units ($SD = 7.44$) while

gross unit subjects showed a lower mean of 20.62 units (SD= 5.69).

With the respect to the MANOVA on the experimental variables, the results did indicate significant Main Effects for A (Unitization), for B (Role Behavior) and for C (Population). This MANOVA also indicated a significant interaction ($F= 4.094$, $df\ 15/56$, $p < .001$) for A x C Factors (Unitization x Population) and a significant interaction ($F= 10.987$, $df\ 15/56$, $p < .001$) for the B x C Factors (Role x Population) across all 15 variables. Since the interaction effects were significant the main effects will not be discussed in this paper. Further analyses indicated that all of the univariate $2 \times 2 \times 2$ analyses showed significant interactions at or beyond the .001 level of significance for the A x C interaction and for the B x C interaction for all fifteen certainty variables. See Table I.

Simple effects analyses on the A x C interactions (Memphis State University Computer Services, 1978) showed the same results for all certainty variables. Significant differences in the simple effects analyses ($p < .001$) were obtained for A at C₂ for all fifteen certainty attributions. The results indicated that hearing impaired subjects were more certain of their personality attributions under fine unit conditions than under gross unit conditions. This supports Newton's hypothesis. Hearing subjects showed no significant differences in certainty ratings of their personality attributions about the stimulus person under fine unit conditions as compared to gross unit conditions. These results should be viewed as very strong as they occurred in all fifteen variables in the same directions and at or beyond the .001 level of significance.

Simple effects analyses (Memphis State University Computer Services, 1978) on the B x C interactions also showed consistent results for all

certainty variables. Significant differences in these simple effect analyses ($p < .001$) were obtained for B at C_1 for all fifteen variables. The results indicated that hearing subjects were more certain of their personality attributions for Out-of-Role Behavior than for In-Role Behavior. These results for hearing subjects showed no significant differences in their certainty judgements whether the stimulus person performed In-Role or Out-of-Role Behavior.

Discussion

Although the main purpose of this research was to compare hearing and hearing impaired subjects' attributional certainty, interesting differences with respect to the Jones and Davis hypothesis and the Newton hypothesis emerged and should receive some attention. In attempting to decide between the two "conflicting" hypotheses, it seems that a third variable, namely, population must be considered. As in any research that attempts to compare populations, the ultimate question is never which group is right or which one wrong, nor is the research complete when differences have been demonstrated. In this research, we have found that hearing impaired subjects showed differences in the certainty of their attributions under fine unit versus gross unit conditions. More specifically, hearing impaired subjects were more sure of their attributions when forced to use fine units. On the other hand, hearing subjects were more certain about their attributions under different Role conditions. As predicted by Jones and Davis, they were more certain for Out-of-Role behavior. In the beginning of this research it was hypothesized that hearing impaired individuals may utilize behavioral cues, patterns, etc. more so than hearing individuals, due to the nature of their impairment. They may, in fact, feel more comfortable and hence sure of themselves, with the finer unit. Of course, this research "forced" subjects

to use either fine or gross units by the nature of the instructions. Future research needs to afford subjects with the opportunity to select their own type of unitization and then, compare the two populations. Research should be done to try to isolate variables that may affect unitization styles among the hearing impaired. It should also be noted that the paradigm utilized in the present research was rather "dry" in that it involved reading a simplistic behavioral sequence. Reading, although important in everyday attributions about stories in newspapers, magazines, letters, etc., is not the whole picture in the attribution process. Future research needs to use actual acted-out behavior, probably presented by videotape. This would make the situation more life-like and probably more interesting to the subjects. In conclusion a definitive answer about the validity of the two hypothesis was not reached. From this research, the Newton hypothesis was supported by the results from the hearing impaired population and the Jones and Davis hypothesis was supported by the results from the hearing population.

TABLE I
Results of the MANOVA on the
Fifteen Certainty Variables

<u>source</u>	<u>F</u>	<u>df</u>	<u>p</u>
A	20.72	15/56	$p \leq .01$
B	10.70	15/56	$p \leq .01$
C	5.83	15/56	$p \leq .01$
AB	.77	15/56	NS
AC	4.09	15/56	$p \leq .01$
BC	10.98	15/56	$p \leq .01$
ABC	.81	15/56	NS

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